

CLAIMS

What is claimed is:

1. A printing system comprising:
5 an inkjet ink having a boronic acid dye and a coated print medium.
2. The printing system of claim 1, wherein the boronic acid dye comprises a boric acid group or a boronic acid group and a dye selected from the group consisting of azo, triphenylmethane, anthraquinone, methine,
10 xanthine, oxazine, thiazine, azine, thiazole, quinolinone, aminoketone, nitro, nitroso, phthalocyanine, acridine, indamine, and indophenol.
3. The printing system of claim 1, wherein a coating layer on the
coated print medium comprises a polyhydroxylated material.
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4. The printing system of claim 3, wherein the polyhydroxylated
material comprises a polyhydroxylated compound having at least two hydroxyl
groups on one molecule of the polyhydroxylated compound.
- 20 5. The printing system of 4, wherein the at least two hydroxyl groups
are positioned on the same side of the polyhydroxylated compound.
6. The printing system of claim 4, wherein the at least two hydroxyl
groups are positioned on adjacent atoms.
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7. The printing system of claim 4, wherein the at least two hydroxyl
groups are positioned on non-adjacent atoms.
- 30 8. The printing system of claim 4, wherein the polyhydroxylated
compound is selected from the group consisting of polyvinyl alcohol, cellulose, a
sugar, and a starch.

9. The printing system of claim 3, wherein the polyhydroxylated material comprises at least two hydroxylated compounds, each hydroxylated compound having at least one hydroxyl group.

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10. The printing system of 9, wherein the at least one hydroxyl group on each of the at least two hydroxylated compounds is positioned on the same side of the polyhydroxylated material.

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11. The printing system of claim 9, wherein the hydroxylated compound comprises silica or a modified silica.

12. A method of reducing dye migration on a print medium, comprising:

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providing a print medium having a coating layer;
applying an inkjet ink comprising a boronic acid dye to the print medium;
and
forming a covalent bond between the boronic acid dye and the coating layer.

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13. The method of claim 12, wherein providing a print medium having a coating layer comprises providing the print medium having a polyhydroxylated material.

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14. The method of claim 13, wherein providing the print medium having a polyhydroxylated material comprises providing a polyhydroxylated compound having at least two hydroxyl groups on one molecule of the polyhydroxylated compound or providing at least two hydroxylated compounds, each hydroxylated compound having at least one hydroxyl group.

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15. The method of claim 13, wherein providing the print medium having a polyhydroxylated material comprises providing the polyhydroxylated

material selected from the group consisting of polyvinyl alcohol, cellulose, sugar, starch, silica and a modified silica.

16. The method of claim 12, wherein applying an inkjet ink comprising
5 a boronic acid dye to the print medium comprises applying the inkjet ink
comprising a boric acid group or a boronic acid group attached to a dye
selected from the group consisting of azo, triphenylmethane, anthraquinone,
methine, xanthine, oxazine, thiazine, azine, thiazole, quinolinone, aminoketone,
nitro, nitroso, phthalocyanine, acridine, indamine, and indophenol.

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17. The method of claim 12, wherein forming a covalent bond between
the boronic acid dye and the coating layer comprises forming a covalent bond
between the boronic acid dye and the at least two hydroxyl groups in the
polyhydroxylated compound or the hydroxyl groups in the at least two
15 hydroxylated compounds.

18. A printed image having improved permanence, comprising:
a boronic acid dye covalently bonded to a coated print medium.

20 19. The printed image of claim 18, wherein the coated print medium
comprises a polyhydroxylated material.

20. The printing system of claim 19, wherein the polyhydroxylated
material comprises a polyhydroxylated compound having at least two hydroxyl
25 groups on one molecule of the polyhydroxylated compound or at least two
hydroxylated compounds, each hydroxylated compound having at least one
hydroxyl group.